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ABSTRACT

In 1987 the U.S. Census Bureau created a universe of private elementary and secondary schools for the National Center for Education Statistics (NCES). This universe has been updated every 2 years through list frame updating and area frame updating. For the list frame updating, lists of private schools are obtained from various associations around the country. The area frame is updated by creating an independent list of all private schools within a nationally representative sample of counties. This document provides an evaluation of the 1993 list frame and area frame updating operations, which are an update of the 1991 operations. Characteristics of the schools identified in the updating are described, and the impact that the list and area frames have on characteristics of the private school universe is described. It is concluded that the list frame updating operation continues to be effective in improving the coverage of private schools. Overall, the list frame updating added 8% to the universe. Results indicate that the combination of the list frame and area frame produces nearly complete coverage for the Private School Survey. Since area frame updating estimated that about 8% of the universe is missing, continuing this area frame updating is necessary to achieve a more complete private school universe. (Contains 20 tables.) (SLD)

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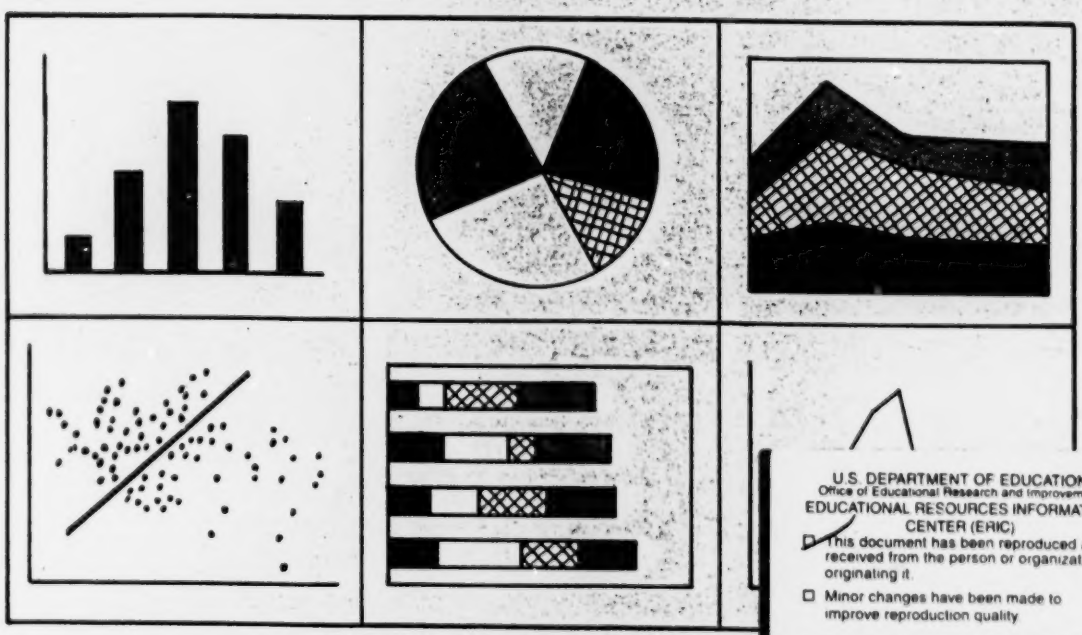
Working Paper Series

Improving the Coverage of

Private Elementary-Secondary Schools

Working Paper No. 96-26 November 1996



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Improving the Coverage of

Private Elementary-Secondary Schools

Working Paper No. 96-26 November 1996

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November 1996

Foreword

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Improving the Coverage of Private Elementary-Secondary Schools

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November 1996

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I. INTRODUCTION

In 1987, the Census Bureau created a universe of private elementary and secondary schools for the National Center for Education Statistics (NCES). This universe has been updated every two years using two coverage improvement operations: list frame updating and area frame updating. For details on the history of PSS, refer to NCES publication 94-350 and the 1994 ASA paper, Jackson, B., Frazier, R., King, K., Schwanz, D. (1994). "Improving the Coverage of Private Elementary-Secondary Schools," in 1994 Proceedings of the American Statistical Association, Section on Survey Research Methods, Volume II, pp. 833-838.

For the list frame updating we obtain lists of private schools from various associations around the country. We also receive lists of private schools from the 50 states plus the District of Columbia. These lists are matched against the most recent private school universe. The nonmatches are added to the universe as births.

For the area frame updating, we create an independent list of all private schools within a nationally representative sample of counties. These lists are created from a set of predetermined sources within each of the counties, and are matched against the updated universe from above. The nonmatches from the area frame are weighted up to represent the schools that are missing from the universe.

This document provides an evaluation of the 1993 list frame and area frame updating operations which are an update of the 1991 operations. We describe the characteristics of the schools identified in the list frame and area frame updating. We also describe the impact that both the list and area frame adds have on characteristics of the private school universe.

We should note that the school population is not stable. The number of schools was about the same in 1991 (25,998) and 1993 (26,093). However, we added quite a few schools to the 1993 PSS universe (1,994). This would suggest that almost an equal number of schools dropped out of the universe from 1991 to 1993. We have estimated this number to be between 1,500 and 1,600. Hence, even though the population of schools is nearly the same, they are a different set of schools.

DEFINITIONS

ADDITIONS: Additions are schools that are added to the universe.

BIRTHS: Births are schools that are new to the universe.

PIN: Personal Identification Number is a unique number assigned to each school record and indicates when the school was introduced to the universe.

PSS: The Private School Survey (PSS) is a **CENSUS** of private elementary and secondary schools in the country. The purpose of the survey is to:

1. build a frame of private schools that is of sufficient accuracy and completeness to serve as a sampling frame for other NCES private school surveys; and
2. To generate biannual data on the total number of private schools, teachers, and students.

QED: The Quality Education Data (QED) file is a commercial list of private schools compiled from handbooks, annual directories, and other materials which list private schools. This file includes such information as school name, address, telephone number, grade level, student enrollment, and teacher counts.

SASS: The Schools and Staffing Surveys (SASS) is a network of surveys that evolved from one survey. They include:

1. Schools and Staffing Survey (SASS)
   (Includes school district, school and administrator, teacher, library, and student samples)
2. Teacher Follow-up Survey (TFS)

The contents of this document are as follows:

Section	Description
II	Goals/Overview of 1993-94 Updating Analysis
III	Highlights
IV	Analysis of List Frame Sources for Additions to the Private School Universe
V	List Frame Adds: Analysis of the Characteristics and their Impact on the Universe
VI	Area Frame Adds: Analysis of the Characteristics and their Impact on the Universe
VII	Comparison of List Frame and Area Frame Adds
VIII	Cost Analysis
IX	Capture-Recapture Estimate
X	Conclusion

II. GOALS/OVERVIEW OF THE 1993 FRAME UPDATING ANALYSIS

A. Goals

- Identify which sources (states, associations, and QED) of lists provided us with the most up-to-date and complete information about the types of school births we have. This goal will be accomplished by answering the following questions.
    - Which source was most effective (i.e., the rate of in-scope births compared to what we received from each source)?
    - Which source provided the largest quantity of eligible or in-scope additions to the private universe?
    - Which source provided the eligible or in-scope additions with the highest interview rate?
    - Which source provided the largest quantity of ineligible or out-of-scope additions?
    - Which source had the highest out-of-scope rate?
    - Compare the results with those from the 1991 analysis.
- Determine the characteristics of the list frame and area frame additions by religious orientation (Catholic, Other Religious, Nonsectarian), school level (elementary, secondary, combined), total student enrollment, school type, minority student population percentage, and year founded. The characteristics of the 1993 additions will be contrasted with those for the 1991 additions.
- Determine the impact of the additions on private school characteristics, such as religious orientation, school level, enrollment, school type, minority student population percentage, and year founded. We will show how the universe benefits from the adds in general and by school characteristic. The results for 1993 will be contrasted with those for 1991.
- Determine the similarities and differences between the 1993 list frame adds and 1993 area frame adds in terms of the characteristics of these adds and the impact of these adds.
- Analyze the costs of the 1993 list frame and area frame updating operation.
- Determine a capture-recapture estimate of the private school universe to evaluate the coverage of private schools on the 1993-94 PSS universe.

B. Overview

The private school universe was updated in 1993 to prepare an updated universe for the third PSS and to use as a sample frame for the 1993-94 SASS.

1. 1993 List Frame Updating

The 1993 list frame updating operation was done in two parts. We conducted the association lists and QED list updating in time to use it for the 1993-94 SASS sampling operation. We then conducted the state list updating operation in time to get the birth schools on the private school universe for PSS.

2. 1993 Area Frame Updating

The 1993 area frame updating was conducted similarly to the 1991 operation except for the following: matching, keying, and unduplicating operations were done in the Jeffersonville, Indiana processing office instead of the 12 regional offices which enabled us to maintain better control of the operation.

III. 1993-94 HIGHLIGHTS OF THE LIST AND AREA FRAME UPDATING OPERATION

- In general, the 1993 PSS interview rate for adds (85.5%) from the states and affiliations is lower than that for 1991 (95.7%).
- The total number of new schools from the association lists in 1993 is slightly smaller (919) than that of 1991 (959).
- The total number of new schools from the state lists in 1993-94 is drastically smaller (2,172) than that of 1991-92 (6,267). The difference in these figures could be attributed to the way in which the updating operation was done (see Section II.B.1 for an explanation) and to the fact that state lists were used for the first time in 1991.
- Twenty-one of the twenty-four association lists requested provided additions to the private universe. Their contribution to the private universe is on a smaller scale than the state lists.
- Other Religious adds make up the largest percentage of additional students, teachers, and graduates across all religious orientation categories. Nonsectarian

adds make up the largest percentage of additional schools across all religious orientations.

- Combined school adds make up the largest percentage of additional schools, students, teachers, and graduates across all school levels.
- Updating had a big impact on Nonsectarian and Other Religious schools, but very little impact on Catholic schools.
- Updating had the biggest overall impact on combined schools although the impact on elementary and secondary schools was significant as well.
- Updating had the biggest impact (on all variables) on the smallest schools. With the exception of graduates in Catholic schools, impact decreased as the size of the school increased.
- Updating had the biggest impact (on all variables) on schools with the largest minority percentage. With the exception of elementary schools and Catholic and other religious schools, impact increased as the minority percentage increased.
- Area Frame updating had a substantial impact on all school types except for regular schools.
- The characteristics of the 1993 area frame adds (Catholic: 3%, Nonsectarian: 33%, Other Religious: 64%) in terms of religious orientation were similar in direction although different in magnitude to those of the 1991 adds (Catholic: 15%, Nonsectarian: 35%, Other Religious: 50%).
- The impact of the 1993 adds was very similar to the impact of the 1991 adds (8% in both years).
- Schools founded prior to 1989 contribute more to the adds than schools founded in any other year.
- Area Frame updating had a big impact on Nonsectarian and Other Religious schools, but very little impact on Catholic schools.
- Area Frame updating had the biggest impact on combined schools although the impact on elementary and secondary schools was also significant.
- Area Frame updating had the biggest impact on the number of small schools.
- Cost analysis indicates that the cost per case for schools from both frames is nearly the same; indicating that the area frame is still needed.

IV. ANALYSIS OF LIST FRAME SOURCES FOR ADDITIONS TO THE PRIVATE SCHOOL UNIVERSE

There are three main sources of lists that we contact when it is time to update the private school universe. These sources are the states, the associations (twenty-four of the largest private school associations), and QED, Inc.

- The list frame updating resulted in the following statistics (Table 4)
    - 3,099 total adds
    - 2,288 in-scope adds (1,947 interviews and 314 noninterviews)
    - 811 out-of-scope adds
- The fifty states and D.C. provided 70% of the total additions to the private universe during the 1993 update (Table 4). Among the individual state lists 60% of the state additions came from Utah, Georgia, Nevada, Wyoming, California, Connecticut, North Carolina, North Dakota, Arizona, Vermont, District of Columbia, Delaware, Florida, Michigan, and Alabama. These states were listed in order of effectiveness (highest rate of in-scope births to lowest rate of in-scope births compared to what was on each list) - (Table 1).
- 65% of the in-scope adds were from state lists (Table 4).
- 14% of the out-of-scope adds were from the association lists (Table 4).

A <u>State Lists</u>

Figure 1: Comparison of 1991 and 1993 List Frame Additions from State Lists

	1993	1991
Interview Rates	83%	96%
In-Scope Rates	68%	66%
Number of Adds	2,172	6,267

At the national level, the state lists have contributed more to the in-scope, out-of-scope, and interview rates than either the association or QED lists. 65% of the 2,288 in-scope adds came from the state lists. 85% of the 811 out-of-scope adds also came from the state lists. The two main out-of-scope reasons from state lists

are "School Closed" and "Don't Know" (i.e., duplicate, PK only, school merged) each at 40% (Table 4).

The interview rates for the individual schools for the in-scope additions coming from the various state lists was 83% (a decrease of 12% from 1991) - (Table 4).

The contributions made by the updating operation differed by state. When we rank the states from most effective to least effective (rate of in-scope births compared to the total on the list for each state), we find the following results (Table 1).

At least 7% of the schools on these lists for the top 16 states were in-scope births. After the lists were clerically matched to the current private universe, the top sixteen states account for 55% of the state additions (Table 1).

Approximately 2/3 or more of the schools from each of these 16 states' additions were eligible or in-scope with four exceptions: Maine at 46%, Arizona at 33%, Delaware at 37%, and Alabama at 59% (Table 1).

- Of these in-scope schools, each state had approximately an 85% interview rate with three exceptions: Maine at 50%, California at 70%, and Delaware at 55% (Table 1).

- Thus, in general these top 16 states (Table 1) provided quality additions as well as a large quantity of additions.

- As was the case in 1991, California was the largest contributor of adds for the state list operation. However, the interview rate in 1991 was much higher than in 1993 (93% compared to 70%) - (Table 1).

- For the remaining 35 states, their contribution was less relative to the overall total of state additions. In other words, less than 7% of the schools from each of these lists were in-scope births. For the majority of these 35 states the in-scope rates and the interview rates were comparable to the more effective ones mentioned above (Table 1).

B. Association Lists

Figure 2: Comparison of 1991 and 1993 List Frame Additions from Association Lists

	1993	1991
Interview Rates	90%	96%
In-Scope Rates	87%	59%
Number of Adds	919	959

35% of the 2,288 total in-scope adds are from association lists. 15% of the 811 total out-of-scope adds came from this source. The two main out-of-scope reasons for affiliation lists are "School Closed" (47%) and "Don't Know" (30%) - (Table 4).

The top five association lists (National Coalition of Alternative Community Schools, Council for Islamic America, Association of Christian Schools International, Oral Roberts, and American Montessori Society) are the most effective ones. They alone account for 75% of the association additions. The lists from these associations provided good quality additions as well as a large quantity (Table 2).

The three most effective association lists (National Coalition of Alternative Community Schools, Council for Islamic America and Association of Christian Schools International) were provided for the first time in 1993.

Each of the remaining fifteen association lists were less than 10% effective (i.e., less than 10% of the schools from each of these lists were in-scope additions compared to the total on the list). However, the importance of these lists to these associations outweighs the fact that they provided a small quantity of additions (Table 2).

Requesting these lists may do more than just update the universe. List requests from associations may promote good public relations with the association heads and they in turn may encourage participation among their member schools.

C. Quality Education Data List

The QED list is relatively small in terms of the impact on the overall number of new list frame additions. The original QED list only provided school births. There were 39 school births. Only 8 were left after clerical unduplication with the existing universe (excluding births from the state and affiliation lists).

This list comes from professional list builders who supposedly use many of the resources we use. Since our resources are similar, overlap or duplication between them and the state/association lists becomes common.

D. List Overlap

We updated the private school universe with affiliation lists for the 1993 SASS private school sample. We then updated the universe with state lists for 1993 PSS. Because this operation was done dependently for states, there is no evidence of overlap between state and affiliation lists.

For example, suppose that "ABC" elementary school was added to the universe as a result of the affiliation updating operation for SASS. Now suppose that "ABC" elementary school was on a state list. Because this school was already on the universe, it would not have been counted as a birth from the state list updating operation.

All of the schools obtained from QED were also on one of the state and/or affiliation lists.

V. ANALYSIS OF THE CHARACTERISTICS OF LIST FRAME ADDS AND THEIR IMPACT

- Schools adds founded prior to 1989 make up the largest percentage of schools, students, teachers, and graduates.
- The characteristics of the 1993 adds were very similar to those for the 1991 adds.
- The impact of the 1993 adds were considerably less than the impact of the 1991 adds.

A. Characteristics of Adds

Figure 3. Comparison of Characteristics of List Frame Additions for 1991 and 1993

	1993	1991
Religious Orientation		
Catholic	6%	5%
Other Religious	59%	62%
Nonsectarian	36%	33%
Grade Level		
Elementary	47%	25%
Secondary	10%	7%
Combined	43%	67%

1. Religious Orientation

Other Religious adds contributed 1,169 schools (59%) of all school adds in the 1993 PSS list frame updating operation. This was followed by 709 Nonsectarian school adds (36%) and 116 Catholic school adds (6%) - (Figure 3). These percentages were very similar to those for 1991.

This pattern for schools across religious orientation is similar for students, teachers, and graduates.

2. School Level

Elementary school adds contributed 936 schools (47% of all school adds) in the 1993 PSS list frame updating operation. This was followed by 854 combined school adds (43%) and then 205 secondary school adds (10%) - (Figure 3). These percentages were fairly similar to those for 1991 for secondary schools. Although elementary and combined schools contributed similarly to the updating operation in 1993, this was not the case in 1991 (See Figure 3).

These patterns are different for students, teachers, and graduates (when valid) with combined schools leading the way followed by elementary and secondary.

3. Enrollment

Small schools contribute more significantly to the list frame adds than the larger ones. The overall percent contributions for schools for each of the size categories for the list frame adds schools for 1993 and 1991 are as follows:

	1993	1991
0 - 75 students:	68%	67%
76 - 150 students:	18%	18%
151 - 225 students:	6%	6%
226 + students:	8%	8%

As one can see the percentages were virtually identical between the two PSS cycles.

In general these percents hold true (in magnitude and direction) for each religious orientation and school level. The exception is the Catholic schools where the larger schools have the largest impact (Table 5.1.A).

In general the overall pattern for students, teachers, and graduates in the various size categories is similar to that of Catholic schools. It shows that the larger schools contribute a greater number of students, teachers, and graduates (Table 5.1.A).

4 Minority Student Percentage

The overall percent contributions for schools for each of the minority student percentage categories for the list frame adds are as follows:

less than 6%:	33%
6% to less than 21%:	28%
21% to less than 51%:	18%
51% or more:	21%

In general, the above pattern holds (in magnitude and direction) for students, teachers, and graduates (Table 7).

In general, the above pattern also holds true (in magnitude and direction) for each religious orientation and school level. One exception is for secondary schools where the overall contribution in each of the four categories for the adds is approximately 25%. The other exception is nonsectarian schools where the schools with a larger minority student percentage contribute more significantly to the adds (Table 7).

5. School Type

Regular elementary/secondary schools make up the vast majority of the list frame adds at 61%. Alternative school adds contribute 17% to the total adds followed by Special Education schools at 12%. Each of the other three school types (Montessori, Special Program Emphasis, and Voc. Tech.) contribute less than 5% each (Table 9).

In general, the above pattern holds true (in magnitude and direction) for each religious orientation and school level. The pattern for students and teachers in Catholic, secondary and combined schools as well as nonsectarian students is similar. One exception is nonsectarian schools and teachers where special education schools contribute slightly more. Another exception is other religious and elementary schools, where special programs replaces special education in the top three. The pattern for students and teachers in these schools is similar (Table 9).

6. Year Founded

Schools founded prior to 1989 contribute about 2/3 (65%) of the total list frame adds schools. Schools founded in 1991 contribute 13.5% to the total adds. Schools founded in the other years (1989, 1990, 1992, or 1993 and beyond) each contribute less than 8%. This pattern is similar (in both magnitude and direction) across all grade levels and religious orientations, as well as for the other variables (students, teachers, and graduates) - (Table 11). One possible explanation for this is that there is lag time between when the lists are compared and when they are updated.

Similar patterns are also seen when we look at the adds by the type of list they came from (i.e., state or affiliation list).

B. Impact of Adds on Private School Characteristics

Figure 4: Comparison of the Impact of the List Frame Additions on the PSS Universe for 1991 and 1993

	1993	1991
Schools	8.3%	18%
Students	3.7%	8%
Teachers	5.2%	11%
Graduates	2.7%	6%

The list frame adds represented 8.3% of schools, 3.7% of students, 5.2% of teachers, and 2.7% of graduates on the universe (Figure 4).

These percentages (impact) are about half of what they were in 1991 (Figure 4).

The statistic of interest in this analysis is the percentage of the universe estimate of each characteristic represented by the adds (i.e., the numerator will be the adds estimate of the characteristic and the denominator will be universe estimate of the characteristic).

1. Religious Orientation

Figure 5. Comparison of the Impact of the List Frame Additions to the PSS Universe by Religious Orientation for 1993 and 1991

	1993	1991
Catholic	1.4%	3%
Other Religious	10.7%	26%
Nonsectarian	14.6%	31%

These percentages varied considerably for religious orientation and showed that this updating had a substantial impact on improving coverage of Nonsectarian and Other Religious schools and very little impact for Catholic schools. Nonsectarian led the way with 14.6% for schools on the

universe, followed closely by Other Religious at 10.7%, and Catholic considerably smaller at 1.4% (Table 5.1.C). These percentages (impact) are about half of what they were in 1991 for each religious orientation.

These percentages were reduced somewhat for each religious orientation when you look at students, teachers, and graduates. However, the general relationship seen for schools still held up in that the percentages for the other variables for Nonsectarian and Other Religious were very close and significantly outdistanced the very small Catholic percentages. These percentages ranged from 5% to 9% (of students, teachers, and graduates on the universe) for Other Religious; 5% to 8% (of students, teachers, and graduates on the universe) for Nonsectarian; 0.5% to 1.5% (of students, teachers, and graduates on the universe) for Catholic (Table 5.1.C).

2. School Level

Figure 6. Comparison of the Impact of the List Frame Additions to the PSS Universe by Grade Level for 1993 and 1991

	1993	1991
Elementary	6.4%	26%
Secondary	8.6%	14%
Combined	12.2%	17%

The school grade level percentages showed less variation and indicated that the list frame updating had a substantial impact on improving the coverage for all three school grade levels. Combined schools lead the way with 12.2% for schools, followed by 8.6% for secondary schools and 6.4% for elementary schools. These percentages (impact) are considerably less than what they were in 1991 for each grade level (Table 5.1.C).

As was seen for religious orientation, these percentages were reduced somewhat when looking at the other statistics (i.e., students, teachers, and graduates) but this relationship seen for schools generally held up for the other statistics except that students, teachers, and graduates in secondary schools have slightly smaller percentages than those in elementary schools (Table 5.1.C).

3. Enrollment

The enrollment percentages showed variation and reflected a strong inverse relationship between the size of the school and the impact of the updating operation on improving the coverage for the different enrollment categories. The impact for schools for each of the size categories for the list frame adds schools for 1993 and 1991 are as follows:

	1993	1991
0-75 students:	16.8%	38%
76-150 students:	7.3%	16%
151-225 students:	3.4%	7%
226 + students	2.2%	5%

The pattern for enrollment percentages for students, teachers, and graduates is very similar in both magnitude and direction to that for schools. These percentages (impact) are about half of what they were in 1991 for each enrollment category (Table 6).

4. Minority Student Percentage

The minority student population percentages showed a slight variation between the percentage of minority students at the school and the impact of the updating operation on improving coverage of the universe for the different categories. Schools with a large population of minority students (51% or more) led the way with an 11.0% impact. As the percentage of minority students at a school decreases, so does the impact on the universe (Table 8).

In general, the same pattern can be seen for secondary and combined schools as well as nonsectarian schools, as well as for students, teachers and graduates (Table 7).

5. School Type

Regular elementary/secondary school adds contribute more to the list frame adds than the other five school types combined. Their impact (6.2%), however, on the list frame universe of this school type is the smallest of the six school types. In contrast, Vocational/Technical schools make the smallest contribution (.3%) to the list frame adds, but they have the largest impact (51.1%) on the list frame universe of this school type. Each of the other four school types (Montessori, Special Program, Special Education, and Alternative) had an impact on the universe of between 10% and 20% (Table 10).

In general, we see the same pattern (regular schools had the largest impact and vocational technical had the smallest) across all grade levels, and religious orientations except for Catholic. This pattern is also the same for students and teachers (Table 9).

6. Year Founded

Schools founded before 1989 had the smallest impact on the universe (5.8%) even though they make up most of the adds. Schools founded in either 1991 or 1992 had the greatest impact on the universe (84.4% and 83.8% respectively). This is also true of schools across all religious orientations and grade levels, except for Catholic schools in 1991 (60%) and 1992 (31%) and secondary schools in 1992 (68%). This pattern is similar within grade level and religious orientation also. This is an indication of the need to update the universe on a regular basis (Table 11).

It seems rather suspicious that only 29% of the schools on the list frame universe founded in 1993 came from the adds (Table 12). We suspect that the question on year founded was misinterpreted. It may be helpful in the future to do cognitive research or reinterview on this question.

VI. ANALYSIS OF THE CHARACTERISTICS OF AREA FRAME ADDS AND THEIR IMPACT

In this section we are dealing with weighted estimates unless otherwise noted.

- Other Religious adds make up the largest percentage of additional area frame schools across all religious orientation categories.
- Combined school adds make up the largest percentage of additional area frame schools across all school levels.
- Schools with the smallest percentage of minority students make up the largest percentage of additional area frame schools.

A. Characteristics of Adds

Note that all statements in this section have been tested and found to be true at the 10% significance level.

1. Religious Orientation

Other Religious adds contributed 1,286 schools (63.5%) of all school adds in the area frame updating operation. This was followed by 671 Nonsectarian school adds (33.1%) and then 69 Catholic school adds (3.4%) - (Table 13). Comparatively in 1991, other religious adds contributed 50% of all schools adds to the area frame updating followed by 35% for nonsectarian and 15% for Catholic.

This pattern for schools across religious orientation is similar for students, teachers, and graduates (Table 13).

2. School Level

Combined school adds contributed 1,003 schools (49.5%) of all school adds in the area frame updating operation. This was followed closely by 904 elementary school adds (44.6%) and then distantly by 119 secondary school adds (5.9%) - (Table 13). In 1991, elementary schools edged out combined schools slightly by contributing 51% (compared to 41% for combined). This was again followed distantly by secondary schools at 9%.

This pattern (when applicable) is similar for teachers and graduates across grade levels. The pattern for students is elementary, combined, and secondary (Table 13).

3. Enrollment

Small schools contribute more significantly to the area frame adds than any of the larger ones (Table 13). The overall percent contributions for schools for each of the size categories for the area frame adds schools are as follows:

0-75 students: 74%
76-150 students: 16%
151-225 students: 5%
226 + students: 5%

These percentages were similar to those for 1991.

In general, these percents hold true (in magnitude and direction) for schools, students, teachers and graduates across each religious orientation and school level. The exception is Catholic schools, student, teachers and

graduates where the larger schools contribute more significantly than the smaller ones (Table 13).

4. Minority Student Percentage

Schools with a low minority student population (less than 6%) contribute more significantly to the area frame adds than any with larger ones (Table 15). The overall percent contributions for schools for each of the minority student percentage categories for the area frame adds are as follows:

less than 6%:	46%
6% to less than 21%:	27%
21% to less than 51%:	14%
51% or more:	13%.

The above pattern holds true (in magnitude and direction) for other religious and elementary and combined schools (Table 15).

In general, the above pattern also holds for students, teachers, and graduates.

5. School Type

Regular elementary/secondary schools (60%) contribute more significantly to the area frame adds than the other school types combined. Alternative/nontraditional schools follow distantly with a 17% contribution. The other four school types (Montessori, Special Program Emphasis, Special Education, Vocational/Technical) each contribute less than 10% to the area frame adds (Table 17).

This pattern is similar for other religious and combined schools. Although not as strong, this pattern is similar for students and graduates (Table 17).

Alternative secondary schools contribute slightly more than regular secondary schools. For nonsectarian schools, Montessori is the largest contributor followed closely by regular schools. For elementary schools, Montessori replaces alternative as the second largest contributor (Table 17).

6. Year Founded

Schools founded prior to 1989 contribute about 2/3 (65%) of the total area frame adds. Schools founded in 1993 and beyond follow distantly with a

12% contribution. Schools founded in the other years (1989-1992) each contribute less than 8% (Table 19).

The above pattern also holds for other religious and elementary and combined schools.

B. Impact of Adds on Private School Characteristics

Note that all statements in this section have been tested and found to be true at the 10% significance level (i.e., we are 90% confident that the statements made here are true).

The area frame adds represented 8% of the schools on the 1993-94 PSS universe (Table 13). This was the same in 1991.

1. Religious Orientation

The area frame updating had a similar but substantial impact on improving the coverage of Nonsectarian and Other Religious schools -- increasing them by 12% and 11% respectively. The impact on Catholic schools was minimal at 1%. This pattern is similar (although not as strong) for students, teachers, and graduates (Table 13). These percentages (impact) were similar to those from 1991 for each religious orientation.

2. School Level

On the other hand, the area frame updating had an impact on improving the coverage for all three grade levels -- combined schools at 13%, outdistanced elementary schools (6%) and secondary schools (5%) - (Table 13). This pattern (when valid) is similar (although not as strong) for students, teachers, and graduates. These percentages (impact) were similar to those from 1991 for each grade level.

3. Enrollment

The enrollment percentages showed variation and reflected a strong inverse relationship between the size of the school and the impact of the updating operation on improving the coverage for the different enrollment categories as follows (Table 14).

0-75 students:	15.6%
76-150 students:	6.7%
151-225 students:	2.6%
226+ students:	1.2%

The pattern for enrollment percentages is similar in both magnitude and direction for students, teachers, and graduates.

4. Minority Student Percentage

The impact for each of the minority student population percentage categories is similar (Table 16).

less than 6%:	9%
6% to less than 21%:	8%
21% to less than 51%:	7%
51% or more:	7%

This pattern is similar for other religious schools and students, teachers, and graduates.

Schools with a low minority student population (less than 6%) had the smallest impact on catholic, nonsectarian, and secondary schools. Elementary schools with a minority population of 6% to less than 21% had a slightly higher impact (6.9%) than elementary schools with less 6% minority population (6%). Schools with 21% to less than 51% minority population had a lower impact (8%) than schools with more than 51% minority population (11%) - (Table 15).

5. School Type

The area frame adds were made up mostly of regular elementary/secondary schools. However, their impact on the private school universe was only 6%. Special Education schools also had a 6% impact on the universe. Area frame updating had a substantial impact on improving the coverage of Montessori, Special Program Emphasis, Vocational/Technical, and Alternative/Nontraditional schools increasing them by 21%, 21%, 38%, and 17% respectively (Table 18). Although not as strong, the pattern is similar for students, teachers, and graduates.

The impact on all Catholic school types was minimal (1.6% or less). Vocational Technical, other religious, elementary and combined schools had no impact on the universe (Table 17).

6. Year Founded

Schools founded in 1993 and beyond had the greatest impact (86%) on the universe (Table 20). This is also true of schools across religious

orientation and grade level - except for Catholic schools (41%) and secondary schools (0%) - (Table 19).

VII. COMPARISON OF LIST FRAME AND AREA FRAME ADDS

Note that all statements in this section have been tested and found to be true at the 10% significance level (i.e., we are 90% confident that the statements made here are true).

A look at the area frame adds by detailed association reveals that a majority (85.5%) of the adds come from one of three categories: 1) an association that we requested but did not get a list from (16.3%); 2) an association list that we did not request during list frame updating (35.3%); or 3) are not formally affiliated with any association (48.4%) which explains why we did not pick up these schools during the list frame updating operation. These numbers are weighted estimates.

In terms of religious orientation, Catholic schools had the lowest concentration of adds and other religious schools had the highest concentration of adds in both frames. The list frame (5.8%) had a higher concentration than the area frame (3.4%) for Catholic schools. The list frame (58.6%) had a slightly lower concentration than the area frame (63.5%) for other religious schools. The impact of the area frame adds is similar to the impact of the list frame adds in terms of religious orientation - except for Catholic schools.

Elementary schools were the heaviest contributor of adds for the list frame (46.9%), whereas they were the smallest contributor of adds from the area frame (5.9%). Elementary schools had the smallest impact in the list frame. Elementary and secondary schools had the smallest impact in the area frame.

In terms of enrollment, the characteristics of the list frame and area frame adds were similar for small schools. The impact of the area frame adds on the universe was generally similar to the impact of the list frame adds.

In terms of minority student percent, the area frame adds (46%) had a higher concentration of schools with a low minority student population than the list frame adds (33%). Otherwise, the characteristics of the frames are similar. The impact of the area frame adds decreases as the percent of minority students increases. The opposite is true for the list frame.

In terms of school type, the characteristics of the list frame and area frame adds were similar for regular elementary/secondary, vocational/technical, and alternative schools. The impact of the area frame adds on the universe were similar to the impact of the list frame adds for regular elementary/secondary and alternative schools.

In terms of the year the school was founded, both list frame and area frame adds had a high concentration of schools founded prior to 1989. The list frame adds had the next highest concentration of schools founded in 1991. The area frame had the next highest concentration of adds founded in 1993 and beyond. This difference would suggest that the area frame lists are somewhat more up to date than the list frame lists. Newer schools had a consistently larger impact on the universe than older ones for the area frame (i.e., the newer the school the higher the impact). This was not the case for the list frame. The newest schools (i.e., founded in 1993 and beyond) had a significantly smaller impact than ones founded in 1990-1992.

VIII. COST ANALYSIS

A. List Frame

The list frame updating involved two operations with two different costs. First, Data Preparation Division (DPD) in Jeffersonville, Indiana received various association lists. They matched and unduplicated these lists against the 1991 PSS list frame universe and then keyed the births. The total cost for this operation was $42,383. There were 763 in-scope association adds. The cost per in-scope add is $55.55.

Next, DPD received lists from the 50 states and DC. They matched and unduplicated these lists against 1994 SASS list frame universe and then keyed the births. The total cost for this operation was $95,220. There were 1,231 in-scope state adds. The cost per in-scope add here is $77.35.
Overall the total cost for the list frame updating operation was $137,603. The total number of in-scope adds was 1,994. The overall cost per in-scope add was $69.00.

B. Area Frame

Field Representatives (FRs) collected and sent lists from various sources in the sample PSUs to Field (FLD) Division. FLD checked in the lists and passed them on to Data Preparation Division (DPD) in Jeffersonville, Indiana. The total FLD cost was $66,988. DPD unduplicated the lists across sources for each PSU. Next, they matched and unduplicated the lists against the 1993 PSS list frame universe. DPD's total cost was $102,920. The total cost for the area frame operation was $169,908. There were 2,026 in-scope (this is a weighted estimate) area frame adds. The cost per weighted in-scope add is $83.86. There were 421 unweighted in-scope area frame adds. The cost per (unweighted) in-scope add is $403.58.

IX. CAPTURE-RECAPTURE ESTIMATE OF THE PRIVATE SCHOOL UNIVERSE

In this section, we estimate the number of schools on the 1993 PSS universe using capture-recapture methodology.[1] The capture-recapture estimate will be used as an evaluative measure of the total to investigate whether or not the traditional PSS estimate of schools has a coverage problem. We will compare the capture-recapture estimate of the number of schools to the final weighted PSS estimate (traditional estimate) of the number of schools to estimate the coverage of private schools on the 1993 PSS universe.

The capture-recapture estimate presented below is based on the following assumptions:

1. The list frame and area frame are independent of one another.
2. There are no out-of-scope records on either frame.
3. There are no duplicate school records.
4. The probability of observation of a school from a frame has the same expected value for all units.

This can be likened to estimating the number of fish in a pond. There is some unknown quantity (x) of fish. Draw a sample of ten and tag them. The probability of a tagged fish from this first sample is: $P(t) = 10/x$. Throw the tagged fish back into the pond and draw another sample of ten fish. This time there are 2 tagged fish and 8 untagged fish. Since P(t) is the probability of being tagged in the first capture, 10P(t) should equal the expected number of tagged fish in the recapture. Thus, if $10P(t) = 100/x = 2$, solving for x, we estimate that there are 50 fish in the pond.

In order to develop the capture-recapture estimate of the number of schools, we need to make use of several different weighted estimates. This is because the area search frame operation only took place in a sample of PSUs. Therefore, any estimate of schools derived from the area search frame has been weighted by the inverse of the probability of selection of the PSU.

In the original list frame, we "captured" and "tagged" 24,067 schools. Thus, the probability of inclusion in the list frame can be expressed as $P(t) = 24,067/x$ where x is the population of private schools in the United States.

In the subsequent area frame, 21,613 schools were "captured", of which 19,587 were "recaptured" or "already tagged". In this case we can identify which schools were "recaptured" during the area search frame matching operation. Any area search frame school that matched to the list frame can be said to have been "recaptured".

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[1] A discussion of the model and assumptions as it applies to decennial census data can be found in Wolter, K.M. (1986): Some Coverage Error Models for Census Data. Journal of the American Statistical Association, 81,. 338-346.

So, we know that 21,613P(t) = 21,613*(24,067/x) = 19,587. Solving for x reveals an estimated population (capture-recapture estimate) of private schools equal to 26,556.

Our traditional estimate of the number of schools is equal to:

$$24,067 + (21,613 - 19587) = 24,067 + 2,026 = 26,093$$

We can estimate the coverage of our traditional estimator by the ratio of the two estimators.

$$\text{Coverage}(\%) = (26,093/26556)*100 = 98.3\%$$

Thus, when comparing the traditional PSS estimate of schools to the capture-recapture estimate of schools, we estimate that the coverage of schools on the 1993 PSS universe is 98.3%.

It's likely that we've overestimated the private school coverage based on the violation of assumption 1.

Assumption 1 was violated during the area frame operation in Illinois. Instead of using the Yellow Pages in Cook County and several other suburban counties, the FRs used a state based list.

Also, we don't know for sure what sources the states used in creating their list of schools for the list frame operation. It's possible that they used some of the same sources that were used in the area frame.

We know from data presented in this paper that assumption 4 is also violated to a certain extent. Concerns about the validity of our coverage estimate due to violation of assumption 4 can be alleviated by poststratification. Poststratification involves computing a capture-recapture estimate for each one of a set of cells, with cells chosen to be correlated with the likelihood of being captured by a particular frame. More work is needed to determine cell definitions before poststratification can take place.

Violation of assumption 4 tends to underestimate the under coverage, so poststratification is needed, particularly if steps are taken to address the violation of assumption 1.

X. CONCLUSION

We should continue to collect lists of private schools from all the states in the future. These state lists are highly effective in terms of number of births compared to size of their respective lists.

We should also continue to collect lists of private schools from the associations in the future. The association lists do contribute to the universe on a smaller scale than the state lists. Requesting these lists may do more than just update the universe. List requests from associations may promote good public relations with the association heads and they in turn may encourage participation among their member schools. It also assumes a complete list of schools for the affiliation estimates. Getting the lists gives confidence in the published numbers.

The list frame updating operation continues to be effective in improving the coverage of private schools. Overall the list frame updating added 8% to the universe.

The cost per weighted in-scope case for both frames is about the same with the area frame being slightly higher. The implication here is that area frame updating is still necessary.

Updating operations are especially needed for improving coverage of small schools, Other Religious and Nonsectarian schools, and non regular types of schools.

The capture-recapture coverage estimate of the number of schools is fairly close to the traditional PSS estimate of the number of schools. The implication here is that the combination of the list frame and the area frame produce nearly complete coverage for PSS.

Since area frame updating estimated that we're missing 8% of the universe, we need to continue this area frame updating to achieve a more complete private school universe. This is especially true since the vast majority of schools picked up in the area frame were not associated with any of the affiliation lists obtained in the list frame updating.

In conclusion, we're not saying that the area frame is any better than the list frame. But that the area frame updating is needed in conjunction with the list frame updating to achieve a more complete PSS universe.

Table 1. Survey Response Status of List Frame Additions by State

State	Total on List	No. of Births	Interview	Noninterview	Out-of-scope	Effectiveness[2]	In-scope (Percent)[3]	Interview (Percent)[4]
Utah	77	21	14	2	5	20.78	76.19	87.50
Maine	175	52	12	12	28	13.71	46.15	50.00
Georgia	467	69	47	8	14	11.78	79.71	85.45
Nevada	84	10	8	1	1	10.71	90.00	88.89
Wyoming	29	3	3	0	0	10.34	100.00	100.00
California	3537	511	250	105	156	10.04	69.47	70.42
Connecticut	328	44	30	2	12	9.76	72.73	93.75
North Carolina	471	57	40	5	12	9.55	78.95	88.89
North Dakota	65	7	5	1	1	9.23	85.71	83.33
Arizona	242	67	19	3	45	9.09	32.84	86.36
Vermont	100	12	9	0	3	9.00	75.00	100.00
District of Columbia	93	12	8	0	4	8.60	66.67	100.00
Delaware	141	30	6	5	19	7.80	36.67	54.55
Florida	1581	173	95	20	58	7.27	66.47	82.61
Michigan	1071	102	68	6	28	6.91	72.55	91.89
Alabama	192	22	13	0	9	6.77	59.09	100.00
Idaho	76	5	5	0	0	6.58	100.00	100.00
Oregon	365	28	23	0	5	6.30	82.14	100.00
Indiana	763	59	36	12	11	6.29	81.36	75.00
Arkansas	64	6	4	0	2	6.25	66.67	100.00
Tennessee	464	54	23	5	26	6.03	51.85	82.14

* Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.

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Table 1. Survey Response Status of List Frame Additions by State

State	Total on List	No. of Births	Interview	Noninterview	Out-of-scope	Effectiveness[2]	In-scope (Percent)[3]	Interview (Percent)[4]
New Mexico	302	68	11	6	51	5.63	25.00	64.71
New Jersey	961	55	51	1	3	5.41	94.55	98.08
Kentucky	372	21	14	4	3	4.84	85.71	77.78
South Carolina	456	27	21	0	6	4.61	77.78	100.00
New Hampshire	131	12	6	0	6	4.58	50.00	100.00
Maryland	1063	68	41	7	20	4.52	70.59	85.42
Massachusetts	621	37	27	1	9	4.51	75.68	96.43
Colorado	356	22	16	0	6	4.49	72.73	100.00
Wisconsin	912	48	34	6	8	4.39	83.33	85.00
Pennsylvania	222	113	70	19	24	3.99	78.76	78.65
Washington	451	28	15	2	11	3.77	60.71	88.24
West Virginia	221	23	5	3	15	3.62	34.78	62.50
Illinois	1404	62	47	2	13	3.49	79.03	95.92
Mississippi	119	4	4	0	0	3.36	100.00	100.00
Missouri	470	19	15	0	4	3.19	78.95	100.00
Minnesota	576	29	17	1	11	3.13	62.07	94.44
New York	2119	84	52	10	22	2.93	73.81	83.87
Texas	696	25	19	1	5	2.87	80.00	95.00
Nebraska	217	9	5	1	3	2.76	66.67	83.33
Kansas	152	4	4	0	0	2.63	100.00	100.00
Alaska	178	6	4	0	2	2.25	66.67	100.00

• **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

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Table 1. Survey Response Status of List Frame Additions by State

State	Total on List	No. of Births	Interview	Noninterview	Out-of-scope	Effectiveness[2]	In-scope (Percent)[3]	Interview (Percent)[4]
Rhode Island	95	2	2	0	0	2.11	100.00	100.00
Louisiana	396	10	8	0	2	2.02	80.00	100.00
Virginia	267	8	5	0	3	1.87	62.50	100.00
Oklahoma	161	27	2	1	24	1.86	11.11	66.67
South Dakota	147	6	2	0	4	1.36	33.33	100.00
Ohio	846	9	8	0	1	0.95	88.89	100.00
Hawaii	136	1	1	0	0	0.74	100.00	100.00
Iowa	203	1	1	0	0	0.49	100.00	100.00
Montana	11	0	0	0	0	0	0	0

[2] Effectiveness = [(Interview + Noninterview) / (Total on List)] * 100

[3] In-Scope = [(Interview + Noninterview) / (No. of Births)] * 100

[4] Interview Rate = [Interview / (Interview + Noninterview)] * 100

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 2. Survey Response Status of List Frame Additions by Association

Association	Total on List	No. Births	Interview	Noninterview	Out-of-scope	Effectiveness[2]	In-Scope (percent)[3]	Interview (Percent)[4]
National Coalition of Alternative Community Schools	237	59	26	10	23	24.89	61.02	72.22
Council for Islamic America	73	28	17	1	10	24.66	64.29	94.44
Association of Christian Schools International	2496	540	444	55	41	21.63	92.41	88.98
Oral Roberts	117	24	17	3	4	17.09	83.33	85.00
American Montessori Society	209	39	33	1	5	16.27	87.18	97.06
Friends Council of Education	77	8	5	2	1	9.09	87.50	71.43
National Society for Hebrew Day Schools	478	48	37	6	5	9.00	89.58	86.05
Association of Private Schools for Exceptional Children	200	26	16	1	9	8.50	65.38	94.12
Solomon Schechter Day School Association	60	4	2	2	0	6.67	100.00	50.00
National Independent Private School Assoc.	37	2	1	1	0	5.41	100.00	50.00
Christian Schools International	306	10	10	0	0	3.27	100.00	100.00
Jesuit Secondary Education Association	44	1	1	0	0	2.27	100.00	100.00
National Association of Episcopal Schools	945	21	18	0	3	1.90	85.71	100.00

* Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.

Table 2. Survey Response Status of List Frame Additions by Association

Association	Total on List	No. Births	Interview	Noninterview	Out-of-scope	Effectiveness[2]	In-Scope (percent)[3]	Interview (Percent)[4]
National Association of Independent Schools	826	17	11	3	3	1.69	82.35	78.57
Wisconsin Evangelical Lutheran Church Synod	402	4	4	0	0	1.00	100.00	100.00
Lutheran Church Missouri Synod	2078	21	16	2	3	0.87	85.71	88.89
National Catholic Education Association	8401	63	53	2	8	0.65	87.30	96.36
Evangelical Lutheran Church of America	1243	4	4	0	0	0.32	100.00	100.00
Association of Military Colleges and Schools	40	0	0	0	0	0.00	0	0
National Center for Neighborhood Enterprise	21	0	0	0	0	0.00	0	0

[2] Effectiveness = [(Interview + Noninterview) / (Total on List)] * 100

[3] In-Scope = [(Interview + Noninterview) / (No. of Births)] * 100

[4] Interview Rate = [Interview / (Interview + Noninterview)] * 100

* Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.

Table 3. Survey Response Status of List Frame Additions -- QED *

	Total on List	No. Births	Interview	Noninterview	Out-of-Scope	Effectiveness[2]	In-Scope (percent)[3]	Interview (percent)[4]
QED	39	8	7	0	1	17.95	87.50	100.00

*** Note: QED provided us with school births that they picked up between 1991 and 1993.**

[2] Effectiveness = [(Interview + Noninterview) / (Total on List)] * 100

[3] In-Scope = [(Interview + Noninterview) / (No. of Births)] * 100

[4] Interview Rate = [Interview / (Interview + Noninterview)] * 100

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 4. 1993 Private Schools Survey List Adds by List Source

In-Scope Adds by Source (Interview + Noninterview) = 2,288

Source:	State List	=	1,477	(64.6%)
	Association List	=	804	(35.1%)
	QED	=	7	(.3%)

Out-of-Scope Adds by Source = 811

Source:	State List	=	695	(85.7%)
	Association List	=	115	(14.2%)
	QED	=	1	(.1%)

% of Interviews from In-Scope Adds by Source

Source	Number of In-Scope Adds	Number of Interviews	Percent
State List	1,477	1,229	83.2%
Association List	804	722	89.9%
QED	7	7	100%

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 4 (con't.). 1993 Private Schools Survey List Adds by List Source

% for Reasons that Schools are Out-of-Scope by Source

Source : State List

Total = 695

Reason	Number of Out-of-Scopes	Percent
Not Private	52	7.5%
PS/Trade School	7	1.0%
School Closed	277	39.9%
Not a School	85	12.2%
Don't Know	274	39.4%

Source : Association List

Total = 115

Reason	Number of Out-of-Scopes	Percent
Not Private	11	9.6%
PS/Trade School	0	0%
School Closed	54	47.0%
Not a School	15	13.0%
Don't Know	35	30.4%

Source : QED

Total = 1

Reason	Number of Out-of-Scopes	Percent
Not Private	0	0%
PS/Trade School	0	0%
School Closed	0	0%
Not a school	0	0%
Don't Know	1	100

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

TABLE 5.1.A

PRIVATE SCHOOLS SURVEY - LIST FRAME ADDS BY SCHOOL CHARACTERISTICS AND ENROLLMENT (FINAL WEIGHTED COUNTS)

CHARACTERISTICS	STUDENTS	TEACHERS	SCHOOLS	GRADUATES
TOTAL	175314.6	18788.6	1994.3	6510.5
RELIGIOUS ORIENTATION				
CATHOLIC	23228.4	1738.5	115.7	968.3
ENROLLMENT				
0-75	1045.7	153.4	28.7	1.1
76-150	1766.7	200.4	16.7	83.8
151-225	4102.5	321.8	21.7	77.4
226+	16313.5	1062.8	48.6	805.9
OTHER RELIGIOUS	110436.3	11058.7	1169.4	3036.7
ENROLLMENT				
0-75	25353.5	3749.8	753.3	543.9
76-150	24585.2	2503.2	231.4	400.8
151-225	15919.9	1402.1	87.2	301.2
226+	44577.6	3403.4	97.5	1790.8
NONSECTARIAN	41649.9	5991.5	709.2	2505.5
ENROLLMENT				
0-75	17605.6	3060.7	573.6	515.4
76-150	9483.6	1368.8	92.4	503.7
151-225	3650.3	389.7	20.4	163.2
226+	10910.3	1172.3	22.9	1323.2
SCHOOL LEVEL				
ELEMENTARY	75608.7	7082.9	935.6	13.6
ENROLLMENT				
0-75	21596.5	2841.7	626.7	13.6
76-150	17371.1	1734.7	165.7	0.0
151-225	12198.5	915.6	67.4	0.0
226+	24442.6	1590.9	75.8	0.0
SECONDARY	18624.4	2157.1	205.2	453.4
ENROLLMENT				
0-75	4087.5	833.3	150.1	439.8
76-150	3073.2	386.8	28.2	215.1
151-225	1620.6	130.8	8.7	1815.7
226+	9843.1	806.1	18.2	0.0
COMBINED	81081.5	9548.7	853.6	593.4
ENROLLMENT				
0-75	18320.9	3289.0	578.8	548.6
76-150	15391.2	1950.9	146.5	326.7
151-225	9853.6	1067.3	53.3	2104.1
226+	37515.8	3241.5	75.0	0.0

TABLE 5.1.B

PRIVATE SCHOOLS SURVEY - LIST FRAME UNIVERSE BY SCHOOL CHARACTERISTICS AND ENROLLMENT (FINAL WEIGHTED COUNTS)

CHARACTERISTICS	STUDENTS	TEACHERS	SCHOOLS	GRADUATES
TOTAL	4705585.3	364150.0	24067.1	238843.9
RELIGIOUS ORIENTATION				
CATHOLIC	2474391.6	148905.4	8261.2	133992.4
ENROLLMENT				
0-75	18953.7	2335.5	369.4	254.5
76-150	143488.7	12089.4	1214.2	1681.7
151-225	388951.0	26163.8	2040.4	5737.8
226+	1922998.2	108316.7	4637.3	126318.3
OTHER RELIGIOUS	1552700.5	133996.5	10935.2	59718.0
ENROLLMENT				
0-75	183403.9	22985.2	5098.6	4527.8
76-150	268022.5	25271.6	2460.3	6877.9
151-225	253713.4	20540.6	1369.8	6687.9
226+	847560.7	65199.1	2006.6	41624.5
NONSECTARIAN	678493.2	81248.1	4870.6	45133.6
ENROLLMENT				
0-75	94583.8	15659.7	2605.7	3807.3
76-150	104730.2	14337.5	976.8	4327.8
151-225	74072.1	9175.2	404.1	3598.2
226+	405107.2	42075.7	884.0	33400.2
SCHOOL LEVEL				
ELEMENTARY	2689573.6	177113.9	14667.4	805.7
ENROLLMENT				
0-75	157426.9	17758.0	4206.0	179.6
76-150	339263.2	29689.4	3024.8	184.8
151-225	546453.5	37922.1	2901.3	197.2
226+	1646430.1	91744.3	4535.3	244.2
SECONDARY	781110.5	64036.8	2386.9	167298.5
ENROLLMENT				
0-75	20191.8	4170.0	573.4	3585.8
76-150	38419.2	5337.4	345.9	7115.1
151-225	48688.6	5486.4	262.6	9872.4
226+	673810.8	49043.0	1205.0	146725.2
COMBINED	1234901.2	122999.3	7012.7	70739.7
ENROLLMENT				
0-75	119322.7	19052.3	3294.1	4824.3
76-150	138559.0	16671.6	1280.5	5587.5
151-225	121594.4	12471.2	650.4	5954.3
226+	855425.2	74804.3	1787.6	54373.6

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TABLE 5.1.C

PRIVATE SCHOOLS SURVEY - RATES OF LIST FRAME ADDS BY SCHOOL CHARACTERISTICS AND ENROLLMENT
PERCENTAGES (*)

CHARACTERISTICS	STUDENTS	TEACHERS	SCHOOLS	GRADUATES
TOTAL	3.7257	5.1596	8.2866	2.7258
RELIGIOUS ORIENTATION				
CATHOLIC	0.9388	1.1675	1.4005	0.7227
ENROLLMENT				
0-75	5.5170	6.5701	7.7573	0.4420
76-150	1.2313	1.6577	1.3780	4.9858
151-225	1.0548	1.2301	1.0651	1.3492
226+	0.8483	0.9812	1.0476	0.6380
OTHER RELIGIOUS	7.1125	8.2529	10.6940	5.0850
ENROLLMENT				
0-75	13.8239	16.3142	14.7746	12.0129
76-150	9.1728	9.9054	9.4061	5.8268
151-225	6.2748	6.8261	6.3684	4.5041
226+	5.2595	5.2201	4.8574	4.3022
NONSECTARIAN	6.1386	7.3743	14.5615	5.5514
ENROLLMENT				
0-75	18.6138	19.5451	22.0133	13.5379
76-150	9.0553	9.5467	9.4564	11.6393
151-225	4.9280	4.2476	5.0386	4.5353
226+	2.6932	2.7861	2.5910	3.9616
SCHOOL LEVEL				
ELEMENTARY	2.8112	3.9990	6.3788	1.6938
ENROLLMENT				
0-75	13.7184	16.0023	14.8994	7.6009
76-150	5.1202	5.8429	5.4796	.
151-225	2.2323	2.4143	2.3228	.
226+	1.4846	1.7340	1.6712	.
SECONDARY	2.3844	3.3685	8.5957	1.7478
ENROLLMENT				
0-75	20.2432	19.9834	26.1742	12.6450
76-150	7.9992	7.2464	8.1658	6.1807
151-225	3.3286	2.3849	3.3035	2.1791
226+	1.4608	1.6437	1.5067	1.2375
COMBINED	6.5658	7.7632	12.1717	5.0507
ENROLLMENT				
0-75	15.3541	17.2629	17.5698	12.3003
76-150	11.1081	11.7020	11.4425	9.8178
151-225	8.1036	8.5580	8.1891	5.4868
226+	4.3856	4.3333	4.1960	3.8698

*** RATES ARE EQUAL TO THE ENTRY IN TABLE 5.1.A DIVIDED BY THE CORRESPONDING ENTRY IN 5.1.B TIMES 100.**

Table 6. Private Schools Survey - Rates (Impact) of List Frame Adds by Enrollment -- Percentages (*)

	STUDENTS	TEACHERS	SCHOOLS	GRADUATES
ENROLLMENT				
0-75	14.8194	16.9932	16.7903	12.3452
75-150	6.9416	7.8772	7.3205	7.6687
151-225	3.3028	3.7824	3.3899	3.3812
226 +	2.2610	2.6154	2.2450	1.9469

* Rates are equal to list frame birth count divided by corresponding list frame universe count times 100.

* Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.

Table 7. Private Schools Survey - School Totals for List Frame Additions and Universe by School Characteristics and Minority Student Population Percent (Final Weighted Counts)

	LIST FRAME ADDS	LIST FRAME UNIVERSE	RATES (*)
TOTAL	1994	24067	8.2852
RELIGIOUS ORIENTATION			
CATHOLIC	116	8261	1.4042
MINORITY PERCENTAGE			
LESS THAN 6%	32	3455	0.9262
6% TO LESS THAN 21%	45	2112	2.1307
21% TO LESS THAN 51%	18	1162	1.5491
51% OR MORE	21	1532	1.3708
OTHER RELIGIOUS	1169	10935	10.6904
MINORITY PERCENTAGE			
LESS THAN 6%	516	5409	9.5397
6% TO LESS THAN 21%	291	2709	10.7420
21% TO LESS THAN 51%	153	1423	10.7519
51% OR MORE	209	1394	14.9928
NONSECTARIAN	709	4871	14.5555
MINORITY PERCENTAGE			
LESS THAN 6%	106	1028	10.3113
6% TO LESS THAN 21%	213	1676	12.7088
21% TO LESS THAN 51%	197	1258	15.6598
51% OR MORE	193	909	21.2321

* **Rates are equal to the list frame adds count divided by the corresponding list frame universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 7. Private Schools Survey - School Totals for List Frame Additions and Universe by School Characteristics and Minority Student Population Percent (Final Weighted Counts)

	LIST FRAME ADDS	LIST FRAME UNIVERSE	RATES (*)
SCHOOL LEVEL			
ELEMENTARY	935	14667	6.3748
MINORITY PERCENTAGE			
LESS THAN 6%	318	6285	5.0597
6% TO LESS THAN 21%	284	3721	7.6323
21% TO LESS THAN 51%	137	2127	6.4410
51% OR MORE	196	2534	7.7348
SECONDARY	205	2387	8.5882
MINORITY PERCENTAGE			
LESS THAN 6%	51	736	6.9293
6% TO LESS THAN 21%	55	779	7.0603
21% TO LESS THAN 51%	52	502	10.3586
51% OR MORE	47	370	12.7027
COMBINED	854	7013	12.1774
MINORITY PERCENTAGE			
LESS THAN 6%	285	2872	9.9234
6% TO LESS THAN 21%	210	1997	10.5158
21% TO LESS THAN 51%	179	1213	14.7568
51% OR MORE	180	931	19.3340

* **Rates are equal to the list frame adds count divided by the corresponding list frame universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 8. Private Schools Survey - Impact of List Frame Additions by Minority Student Population Percent - Percentages (*)

	SCHOOLS
MINORITY STUDENT POPULATION PERCENTAGE	
less than 6%	6.6114
6% to less than 21%	8.4501
21% to less than 51%	9.5759
51% or more	11.0300

* **Rates are equal to list frame birth count divided by corresponding list frame universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 9. Private Schools Survey - School Totals for List Frame Additions and Universe by School Characteristics and School Type (Final Weighted Counts)

	LIST FRAME ADDS	LIST FRAME UNIVERSE	RATES (*)
TOTAL	1994	24067	8.2852
RELIGIOUS ORIENTATION			
CATHOLIC	116	8261	1.4042
SCHOOL TYPE			
REGULAR	96	7956	1.2066
MONTESSORI	1	27	3.7037
SPECIAL PROGRAM	2	102	1.9608
SPECIAL EDUCATION	10	83	12.0482
VOC. TECH	0	3	0.0000
ALTERNATIVE	7	90	7.7778
OTHER RELIGIOUS	1169	10935	10.6904
SCHOOL TYPE			
REGULAR	948	9627	9.8473
MONTESSORI	12	57	21.0526
SPECIAL PROGRAM	39	284	13.7324
SPECIAL EDUCATION	18	79	22.7848
VOC. TECH	2	3	66.6667
ALTERNATIVE	150	885	16.9492
NONSECTARIAN	709	4871	14.5555
SCHOOL TYPE			
REGULAR	178	2038	8.7341
MONTESSORI	88	699	12.5894
SPECIAL PROGRAM	49	251	19.5219
SPECIAL EDUCATION	210	1157	18.1504
VOC. TECH.	4	7	57.1429
ALTERNATIVE	180	719	25.0348

* **Rates are equal to the list frame adds count divided by the corresponding list frame universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 9. Private Schools Survey - School Totals for List Frame Additions and Universe by School Characteristics and School Type (Final Weighted Counts)

	LIST FRAME ADDS	LIST FRAME UNIVERSE	RATES (*)
SCHOOL LEVEL			
ELEMENTARY	935	14667	6.3749
SCHOOL TYPE			
REGULAR	703	13110	5.3623
MONTESSORI	71	584	12.1575
SPECIAL PROGRAM	45	301	14.9502
SPECIAL EDUCATION	21	114	18.4211
VOC. TECH.	1	1	100.0000
ALTERNATIVE	94	557	16.8761
SECONDARY	205	2387	8.5882
SCHOOL TYPE			
REGULAR	80	1828	4.3764
MONTESSORI	0	2	0.0000
SPECIAL PROGRAM	9	115	7.8261
SPECIAL EDUCATION	49	180	27.2222
VOC. TECH.	2	7	28.5714
ALTERNATIVE	65	255	25.4902
COMBINED	854	7013	12.1774
SCHOOL TYPE			
REGULAR	439	4683	9.3743
MONTESSORI	32	197	16.2437
SPECIAL PROGRAM	36	221	16.2896
SPECIAL EDUCATION	167	1025	16.2927
VOC. TECH.	4	5	80.0000
ALTERNATIVE	176	882	19.9546

* **Rates are equal to the list frame adds count divided by the corresponding list frame universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 10. Private Schools Survey - Impact of List Frame Additions by School Type -- Percentages (*)

	SCHOOLS
SCHOOL TYPE	
REGULAR	6.2280
MONTESSORI	12.8991
SPECIAL PROGRAM	14.1287
SPECIAL EDUCATION	18.0440
VOC. TECH.	46.1538
ALTERNATIVE	19.8937

* **Rates are equal to list frame birth counts divided by the corresponding list frame universe counts times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 11. Private Schools Survey - School Totals for List Frame Additions and Universe by School Characteristics and Year Founded (Final Weighted Counts)

	LIST FRAME ADDS	LIST FRAME UNIVERSE	RATES (*)
TOTAL	1994	24067	8.2852
RELIGIOUS ORIENTATION			
CATHOLIC	116	8261	1.4042
YEAR FOUNDED			
BEFORE 1989	82	8113	1.0107
1989	3	43	6.9767
1990	3	37	8.1081
1991	21	34	61.7647
1992	7	23	30.4348
1993 AND BEYOND	0	11	0.0000
OTHER RELIGIOUS	1169	10935	10.6904
YEAR FOUNDED			
BEFORE 1989	698	10169	6.8640
1989	71	226	31.4159
1990	99	197	50.2538
1991	176	200	88.0000
1992	116	125	92.8000
1993 AND BEYOND	9	18	50.0000
NONSECTARIAN	709	4871	14.5555
YEAR FOUNDED			
BEFORE 1989	511	4524	11.2953
1989	42	111	37.8378
1990	44	95	46.3158
1991	71	83	85.5422
1992	38	46	82.6087
1993 AND BEYOND	3	12	25.0000

* **Rates are equal to the list frame adds count divided by the corresponding list frame universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 11. Private Schools Survey - School Totals for List Frame Additions and Universe by School Characteristics and Year Founded (Final Weighted Counts)

	LIST FRAME ADDS	LIST FRAME UNIVERSE	RATES (*)
SCHOOL LEVEL			
ELEMENTARY	935	14667	6.3748
YEAR FOUNDED			
BEFORE 1989	587	14014	4.1887
1989	57	205	27.8049
1990	67	160	41.8750
1991	141	167	84.4311
1992	79	100	79.0000
1993 AND BEYOND	4	21	19.0476
SECONDARY	205	2387	8.5882
YEAR FOUNDED			
BEFORE 1989	127	2244	5.6595
1989	12	33	36.3636
1990	21	48	43.7500
1991	26	31	83.8710
1992	16	24	66.6667
1993 AND BEYOND	3	7	42.8571
COMBINED	854	7013	12.1774
YEAR FOUNDED			
BEFORE 1989	576	6548	8.7966
1989	48	142	33.8028
1990	57	120	47.5000
1991	101	120	84.1667
1992	66	69	95.6522
1993 AND BEYOND	6	14	42.8571

* **Rates are equal to the list frame adds count divided by the corresponding list frame universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 12. Private Schools Survey - Impact of List Frame Additions by Year Founded - Percentages (*)

	SCHOOLS
YEAR FOUNDED	
BEFORE 1989	5.6608
1989	30.5263
1990	44.3769
1991	84.5426
1992	82.9897
1993	29.2683

* **Rates are equal to list frame birth counts divided by the corresponding list frame universe counts times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 13. Private Schools Survey - School Totals for Area Frame Additions and PSS Universe by School Characteristics and Enrollment (Final Weighted Counts)

	AREA FRAME ADDS	PSS UNIVERSE	RATES (*)
TOTAL	2026	26093	7.7645
RELIGIOUS ORIENTATION			
CATHOLIC	69	8331	0.8282
ENROLLMENT			
0-75	12	382	3.1414
76-150	8	1222	0.6547
150-225	25	2065	1.2106
226 +	24	4662	0.5148
OTHER RELIGIOUS	1286	12221	10.5229
ENROLLMENT			
0-75	965	6063	15.9162
76-150	223	2684	8.3085
151-225	43	1413	3.0432
226 +	55	2061	2.6686
NONSECTARIAN	671	5541	12.1097
ENROLLMENT			
0-75	519	3125	16.6080
76-150	101	1078	9.3692
151-225	35	439	7.9727
226 +	16	899	1.7798

* **Rates are equal to the area frame adds count divided by the corresponding PSS universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 13. Private Schools Survey - School Totals or Area Frame Additions and PSS Universe by School Characteristics and Enrollment (Final Weighted Counts)

SCHOOL LEVEL	AREA FRAME ADDS	PSS UNIVERSE	RATES (*)
ELEMENTARY	904	15571	5.8057
ENROLLMENT			
0-75	561	4766	11.7709
76-150	238	3263	7.2939
151-225	65	2967	2.1908
226 +	40	4575	0.8743
SECONDARY	119	2506	4.7486
ENROLLMENT			
0-75	67	640	10.4688
76-150	28	374	7.4866
151-225	19	282	6.7376
226 +	5	1210	0.4132
COMBINED	1003	8016	12.5125
ENROLLMENT			
0-75	869	4163	20.8744
76-150	66	1347	4.8998
151-225	19	669	2.8400
226 +	49	1837	2.6674

* **Rates are equal to the area frame adds count divided by the corresponding PSS universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 14. Private Schools Survey - Rates (Impact) of Area Frame Adds by Enrollment -- Percentages (*)

	SCHOOLS
ENROLLMENT	
0-75	15.6797
76-150	6.6613
151-225	2.6296
226 +	1.2464

* Rates are equal to the area frame adds count divided by the corresponding PSS universe count times 100.

* Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.

Table 15. Private Schools Survey - School Totals for Area Frame Additions and PSS Universe by School Characteristics and Minority Student Population Percents (Final Weighted Counts)

	AREA FRAME ADDS	PSS UNIVERSE	RATES (*)
TOTAL	2026	26093	7.7645
RELIGIOUS ORIENTATION			
CATHOLIC	69	8331	0.8282
MINORITY PERCENTAGE			
LESS THAN 6%	5	3460	0.1445
6% TO LESS THAN 21%	29	2142	1.3539
21% TO LESS THAN 51%	15	1177	1.2774
51% OR MORE	20	1552	1.2886
OTHER RELIGIOUS	1286	12221	10.5229
MINORITY PERCENTAGE			
LESS THAN 6%	829	6237	13.2916
6% TO LESS THAN 21%	265	2974	8.9106
21% TO LESS THAN 51%	92	1515	6.0726
51% OR MORE	100	1495	6.6890
NONSECTARIAN	671	5541	12.1097
MINORITY PERCENTAGE			
LESS THAN 6%	92	1120	8.2143
6% TO LESS THAN 21%	260	1935	13.4367
21% TO LESS THAN 51%	169	1427	11.8430
51% OR MORE	150	1059	14.1643

* **Rates are equal to the area frame adds count divided by the corresponding PSS universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 15. Private Schools Survey - School Totals for Area Frame Additions and PSS Universe by School Characteristics and Minority Student Population Percents (Final Weighted Counts)

	AREA FRAME ADDS	PSS UNIVERSE	RATES (*)
SCHOOL LEVEL			
ELEMENTARY	904	15571	5.8057
MINORITY PERCENTAGE			
LESS THAN 6%	401	6686	5.9976
6% TO LESS THAN 21%	274	3995	6.8586
21% TO LESS THAN 51%	125	2253	5.5482
51% OR MORE	104	2637	3.9439
SECONDARY	119	2506	4.7486
MINORITY PERCENTAGE			
LESS THAN 6%	8	744	1.0753
6% TO LESS THAN 21%	19	798	2.3810
21% TO LESS THAN 51%	42	545	7.7064
51% OR MORE	50	419	11.9332
COMBINED	1003	8016	12.5125
MINORITY PERCENTAGE			
LESS THAN 6%	516	3388	15.2302
6% TO LESS THAN 21%	262	2258	11.6032
21% TO LESS THAN 51%	108	1321	8.1756
51% OR MORE	117	1049	11.1535

* **Rates are equal to the area frame adds count divided by the corresponding PSS universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 16. Private Schools Survey - Impact of Area Frame Additions by Minority Student Population Percents -- Percentages (*)

MINORITY STUDENT POPULATION PERCENTS	SCHOOLS
LESS THAN 6%	8.5606
6% TO LESS THAN 21%	7.8570
21% TO LESS THAN 51%	6.7006
51% OR MORE	6.5757

* Rates are equal to the area frame adds count divided by corresponding PSS universe count times 100.

* Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.

Table 17. Private Schools Survey - School Totals for Area Frame Additions and PSS Universe by School Characteristics and School Type (Final Weighted Counts)

	AREA FRAME ADDS	PSS UNIVERSE	RATES (*)
TOTAL	2026	26093	7.7645
RELIGIOUS ORIENTATION			
CATHOLIC	69	8331	0.8282
SCHOOL TYPE			
REGULAR	65	8021	0.8104
MONTESSORI	0	27	0.0000
SPECIAL PROGRAM	1	104	0.9615
SPECIAL EDUCATION	2	85	2.3529
VOC. TECH.	0	3	0.0000
ALTERNATIVE	1	91	1.0989
OTHER RELIGIOUS	1286	12221	10.5229
SCHOOL TYPE			
REGULAR	978	10605	9.2221
MONTESSORI	12	69	17.3913
SPECIAL PROGRAM	42	326	12.8834
SPECIAL EDUCATION	0	79	0.0000
VOC. TECH.	0	3	0.0000
ALTERNATIVE	254	1139	22.3003
NONSECTARIAN	671	5541	12.1097
SCHOOL TYPE			
REGULAR	160	2198	7.2793
MONTESSORI	196	895	21.8994
SPECIAL PROGRAM	129	380	33.9474
SPECIAL EDUCATION	80	1237	6.4762
VOC. TECH.	8	15	53.3333
ALTERNATIVE	98	816	12.0098

* **Rates are equal to the area frame adds count divided by the corresponding PSS universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 17. Private Schools Survey - School Totals for Area Frame Additions and PSS Universe by School Characteristics and School Type (Final Weighted Counts)

	AREA FRAME ADDS	PSS UNIVERSE	RATES (*)
SCHOOL LEVEL			
ELEMENTARY	904	15571	5.8057
SCHOOL TYPE			
REGULAR	678	1378	4.9173
MONTESSORI	137	721	19.0014
SPECIAL PROGRAM	41	342	11.9883
SPECIAL EDUCATION	4	118	3.3898
VOC. TECH.	0	1	0.0000
ALTERNATIVE	44	601	7.3211
SECONDARY	119	2506	4.7486
SCHOOL TYPE			
REGULAR	42	1870	2.2460
MONTESSORI	0	2	0.0000
SPECIAL PROGRAM	16	132	12.1212
SPECIAL EDUCATION	4	185	2.1622
VOC. TECH.	8	14	57.1429
ALTERNATIVE	49	303	16.1716
COMBINED	1003	8016	12.5125
SCHOOL TYPE			
REGULAR	484	5167	9.3671
MONTESSORI	72	269	26.7658
SPECIAL PROGRAM	115	335	34.3284
SPECIAL EDUCATION	72	1098	6.5574
VOC. TECH.	0.	5	0.0000
ALTERNATIVE	260	1142	22.7671

* **Rates are equal to the area frame adds count divided by the corresponding PSS universe count times 100.**
* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 18. Private Schools Survey - Impact of Area Frame Additions by School Type -- Percentages (*)

	SCHOOLS
SCHOOL TYPE	
REGULAR	5.7770
MONTESSORI	20.9889
SPECIAL PROGRAM	21.2346
SPECIAL EDUCATION	5.8530
VOC. TECH.	38.0952
ALTERNATIVE	17.2532

* **Rates are equal to area frame counts divided by the corresponding PSS frame universe counts times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 19. Private Schools Survey - School Totals for Area Frame Additions and PSS Universe by School Characteristics and Year Founded (Final Weighted Counts)

	AREA FRAME ADDS	PSS UNIVERSE	RATES (*)
TOTAL	2026	26093	7.7645
RELIGIOUS ORIENTATION			
CATHOLIC	69	8331	0.8282
YEAR FOUNDED			
BEFORE 1989	39	8152	0.4784
1989	0	44	0.0000
1990	0	37	0.0000
1991	13	47	27.6596
1992	9	32	29.1250
1993 AND BEYOND	8	19	42.1053
OTHER RELIGIOUS	1286	12221	10.5229
YEAR FOUNDED			
BEFORE 1989	798	10967	7.2764
1989	100	326	30.6748
1990	63	260	24.2308
1991	48	248	19.3548
1992	76	201	37.8109
1993 AND BEYOND	201	219	91.7808
NONSECTARIAN	671	5541	12.1097
YEAR FOUNDED			
BEFORE 1989	475	5000	9.5000
1989	17	128	13.2812
1990	26	121	21.4876
1991	39	121	31.2314
1992	77	122	63.1148
1993 AND BEYOND	37	49	75.5102

* **Rates are equal to the area frame adds count divided by the corresponding PSS universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 19. Private Schools Survey - School Totals for Area Frame Additions and PSS Universe by School Characteristics and Year Founded (Final Weighted Counts)

	AREA FRAME ADDS	PSS UNIVERSE	RATES (*)
SCHOOL LEVEL			
ELEMENTARY	904	15571	5.8057
YEAR FOUNDED			
BEFORE 1989	572	14587	3.9213
1989	22	226	9.7345
1990	25	185	13.5135
1991	46	213	21.5962
1992	97	197	49.2386
1993 AND BEYOND	142	163	87.1166
SECONDARY	119	2506	4.7486
YEAR FOUNDED			
BEFORE 1989	104	2348	4.4293
1989	3	37	8.1081
1990	1	49	2.0408
1991	0	31	0.0000
1992	11	35	31.4286
1993 AND BEYOND	0	6	0.0000
COMBINED	1003	8016	12.5125
YEAR FOUNDED			
BEFORE 1989	637	7185	8.8657
1989	93	234	39.7436
1990	63	184	34.2391
1991	53	172	30.8140
1992	53	123	43.0894
1993 AND BEYOND	104	118	88.1356

* **Rates are equal to the area frame adds count divided by the corresponding PSS universe count times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Table 20. Private Schools Survey - Rates (Impact) of Area Frame Adds by School Type -- Percentages (*)

	SCHOOLS
YEAR FOUNDED	
BEFORE 1989	5.4397
1989	23.4940
1990	21.2919
1991	24.0385
1992	45.6338
1993 AND BEYOND	85.7143

* **Rates are equal to area frame counts divided by the corresponding PSS frame universe counts times 100.**

* **Source: U.S. Census Bureau, Demographic Surveys Division, Private Schools Survey, 1993-94.**

Listing of NCES Working Papers to Date

Please contact Ruth R. Harris at (202) 219-1831
if you are interested in any of the following papers

Number	Title	Contact
94-01 (July)	Schools and Staffing Survey (SASS) Papers Presented at Meetings of the American Statistical Association	Dan Kasprzyk
94-02 (July)	Generalized Variance Estimate for Schools and Staffing Survey (SASS)	Dan Kasprzyk
94-03 (July)	1991 Schools and Staffing Survey (SASS) Reinterview Response Variance Report	Dan Kasprzyk
94-04 (July)	The Accuracy of Teachers' Self-reports on their Postsecondary Education: Teacher Transcript Study, Schools and Staffing Survey	Dan Kasprzyk
94-05 (July)	Cost-of-Education Differentials Across the States	William Fowler
94-06 (July)	Six Papers on Teachers from the 1990-91 Schools and Staffing Survey and Other Related Surveys	Dan Kasprzyk
94-07 (Nov.)	Data Comparability and Public Policy: New Interest in Public Library Data Papers Presented at Meetings of the American Statistical Association	Carrol Kindel
95-01 (Jan.)	Schools and Staffing Survey: 1994 Papers Presented at the 1994 Meeting of the American Statistical Association	Dan Kasprzyk
95-02 (Jan.)	QED Estimates of the 1990-91 Schools and Staffing Survey: Deriving and Comparing QED School Estimates with CCD Estimates	Dan Kasprzyk
95-03 (Jan.)	Schools and Staffing Survey: 1990-91 SASS Cross-Questionnaire Analysis	Dan Kasprzyk
95-04 (Jan.)	National Education Longitudinal Study of 1988: Second Follow-up Questionnaire Content Areas and Research Issues	Jeffrey Owings
95-05 (Jan.)	National Education Longitudinal Study of 1988: Conducting Trend Analyses of NLS-72, HS&B, and NELS:88 Seniors	Jeffrey Owings

Listing of NCES Working Papers to Date--Continued

Number	Title	Contact
95-06 (Jan.)	National Education Longitudinal Study of 1988: Conducting Cross-Cohort Comparisons Using HS&B, NAEP, and NELS:88 Academic Transcript Data	Jeffrey Owings
95-07 (Jan.)	National Education Longitudinal Study of 1988: Conducting Trend Analyses HS&B and NELS:88 Sophomore Cohort Dropouts	Jeffrey Owings
95-08 (Feb.)	CCD Adjustment to the 1990-91 SASS: A Comparison of Estimates	Dan Kasprzyk
95-09 (Feb.)	The Results of the 1993 Teacher List Validation Study (TLVS)	Dan Kasprzyk
95-10 (Feb.)	The Results of the 1991-92 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation	Dan Kasprzyk
95-11 (Mar.)	Measuring Instruction, Curriculum Content, and Instructional Resources: The Status of Recent Work	Sharon Bobbitt & John Ralph
95-12 (Mar.)	Rural Education Data User's Guide	Samuel Peng
95-13 (Mar.)	Assessing Students with Disabilities and Limited English Proficiency	James Houser
95-14 (Mar.)	Empirical Evaluation of Social, Psychological, & Educational Construct Variables Used in NCES Surveys	Samuel Peng
95-15 (Apr.)	Classroom Instructional Processes: A Review of Existing Measurement Approaches and Their Applicability for the Teacher Follow-up Survey	Sharon Bobbitt
95-16 (Apr.)	Intersurvey Consistency in NCES Private School Surveys	Steven Kaufman
95-17 (May)	Estimates of Expenditures for Private K-12 Schools	Stephen Broughman
95-18 (Nov.)	An Agenda for Research on Teachers and Schools: Revisiting NCES' Schools and Staffing Survey	Dan Kasprzyk
96-01 (Jan.)	Methodological Issues in the Study of Teachers' Careers: Critical Features of a Truly Longitudinal Study	Dan Kasprzyk

Listing of NCES Working Papers to Date--Continued

Number	Title	Contact
96-02 (Feb.)	Schools and Staffing Survey (SASS): 1995 Selected papers presented at the 1995 Meeting of the American Statistical Association	Dan Kasprzyk
96-03 (Feb.)	National Education Longitudinal Study of 1988 (NELS:88) Research Framework and Issues	Jeffrey Owings
96-04 (Feb.)	Census Mapping Project/School District Data Book	Tai Phan
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96-10 (Apr.)	1998-99 Schools and Staffing Survey: Issues Related to Survey Depth	Dan Kasprzyk
96-11 (June)	Towards an Organizational Database on America's Schools: A Proposal for the Future of SASS, with comments on School Reform, Governance, and Finance	Dan Kasprzyk
96-12 (June)	Predictors of Retention, Transfer, and Attrition of Special and General Education Teachers: Data from the 1989 Teacher Followup Survey	Dan Kasprzyk
96-13 (June)	Estimation of Response Bias in the NHES:95 Adult Education Survey	Steven Kaufman
96-14 (June)	The 1995 National Household Education Survey: Reinterview Results for the Adult Education Component	Steven Kaufman
96-15 (June)	Nested Structures: District-Level Data in the Schools and Staffing Survey	Dan Kasprzyk

Listing of NCES Working Papers to Date--Continued

Number	Title	Contact
96-16 (June)	Strategies for Collecting Finance Data from Private Schools	Stephen Broughman
96-17 (July)	National Postsecondary Student Aid Study: 1996 Field Test Methodology Report	Andrew G. Malizio
96-18 (Aug.)	Assessment of Social Competence, Adaptive Behaviors, and Approaches to Learning with Young Children	Jerry West
96-19 (Oct.)	Assessment and Analysis of School-Level Expenditures	William Fowler
96-20 (Oct.)	1991 National Household Education Survey (NHES:91) Questionnaires: Screener, Early Childhood Education, and Adult Education	Kathryn Chandler
96-21 (Oct.)	1993 National Household Education Survey (NHES:93) Questionnaires: Screener, School Readiness, and School Safety and Discipline	Kathryn Chandler
96-22 (Oct)	1995 National Household Education Survey (NHES:95) Questionnaires: Screener, Early Childhood Program Participation, and Adult Education	Kathryn Chandler
96-23 (Oct)	Linking Student Data to SASS: Why, When, How	Dan Kasprzyk
96-24 (Oct)	National Assessments of Teacher Quality	Dan Kasprzyk
96-25 (Oct)	Measures of Inservice Professional Development: Suggested Items for the 1998-1999 Schools and Staffing Survey	Dan Kasprzyk
96-26 (Nov)	Improving the Coverage of Private Elementary-Secondary Schools	Steven Kaufman

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